

What Is Claimed Is:

1. Vacuum gripper for suctioning work pieces, with a vacuum connection (14), a flexible suction body (20) and a suction body holder (12), where the side of the suction body (20) facing the workpiece (32) comprises a sealing lip (22) bounding a vacuum chamber (26), and the vacuum chamber (26) is connected by air flow to the vacuum connection (14), where the suction body (20) has a contact surface (28) abutting the work piece (32) with prevailing vacuum in the vacuum chamber (26), characterized in that the contact surface (28) comprises a microstructure (38) formed of rod-, louver- or pin-shaped elements (34).
2. Vacuum gripper in accordance with claim 1, wherein the elements (34) are part of a microstructure (38).
3. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) or at least their free ends (36) are plially flexible.
4. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) consist of the same material as the vacuum gripper (10).
5. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) are disposed as one piece on the suction body (20).
6. Vacuum gripper in accordance with one of the claims 1 to 4, wherein the elements (34) are disposed on a carrier to be attached to the vacuum gripper (10).
7. Vacuum gripper in accordance with claim 6, wherein the carrier is a plate or a film (42).

8. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) are made of plastic.
9. Vacuum gripper in accordance with one of the preceding claims, wherein the length (L) of the elements (34) is two to twenty, specifically five to ten times, greater than their thickness (D) or diameter.
10. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) are at a distance (A) from each other that corresponds to 0.5 to 2.5, specifically one to two times, their thickness (D).
11. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) have a rounded, flattened or pointed free end (36).
12. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) have a circular, elliptical or flat (planar) cross section.
13. Vacuum gripper in accordance with claim 12, wherein the blade plane for elements (34) with a flat cross section extends in the circumferential direction of the vacuum gripper (10).
14. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) project perpendicular from the contact surface (28).
15. Vacuum gripper in accordance with one of the preceding claims, wherein the sealing lip (22) is free of elements (34).

16. Vacuum gripper in accordance with one of the preceding claims, wherein the elements (34) extend (10) over 70 to 95% of its radius, starting from the center (40) of the vacuum gripper.

17. Vacuum gripper in accordance with one of the preceding claims, wherein the length (L) of the elements measures 0.1 to 3mm, specifically 0.5 to 1mm.

18. Method for producing a suction gripper (10) in accordance with one of the preceding claims, characterized in that it is injection molded.

19. Method in accordance with claim 18, wherein the elements (34) are, at least partially, cut out of the contact surface (28) by means of a laser.

20. Method in accordance with claim 18, wherein at least in sections a film (42) comprising the elements (34) is adhered to the contact surface (28).

21. Method in accordance with claim 20, wherein several films (42) are adhered on top of each other.